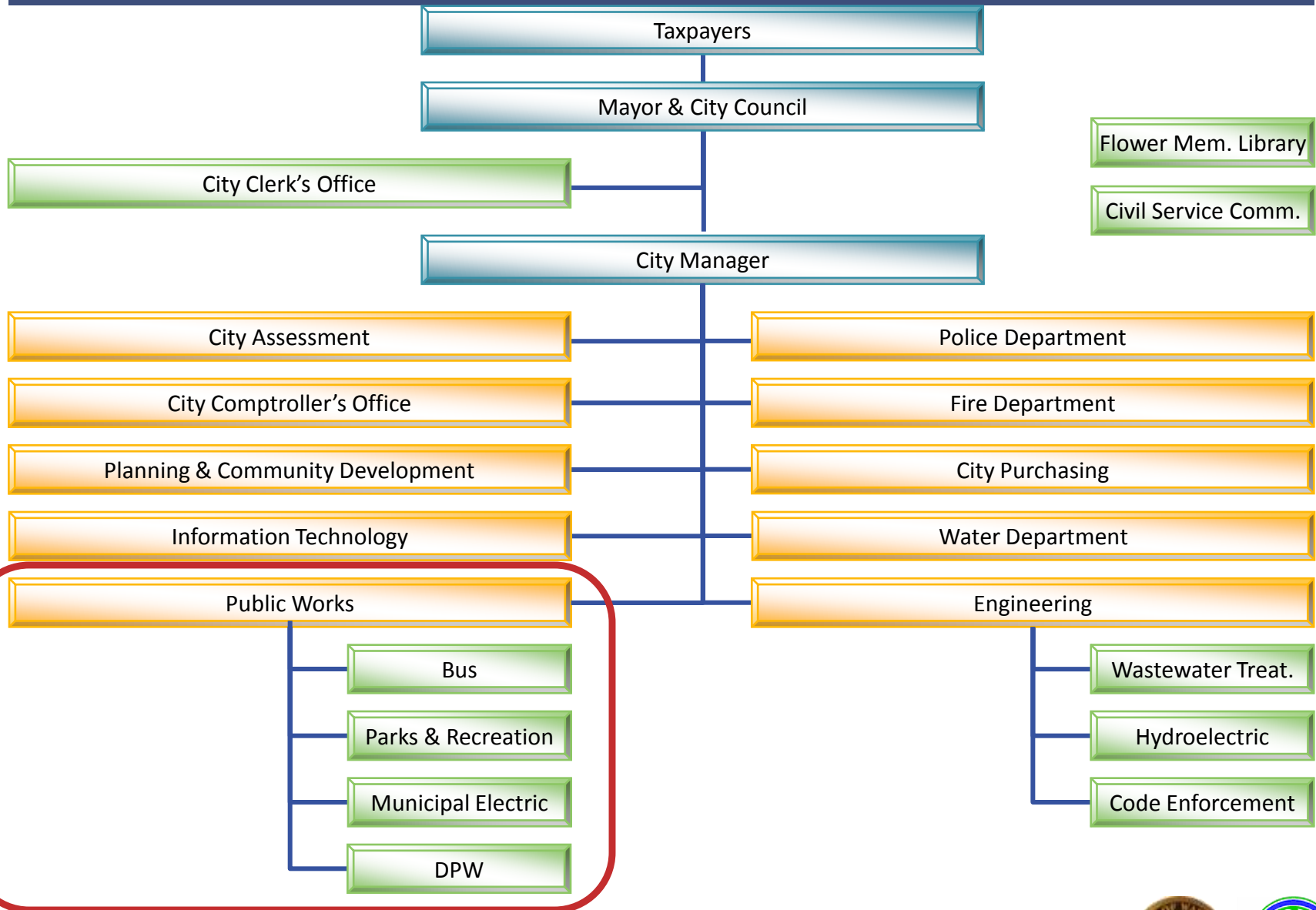




## DEPARTMENT OF PUBLIC WORKS

Presented by Gene Hayes, Superintendent of Public Works

# City of Watertown, New York – Organizational Chart



## Department of Public Works – Organizational Chart

Superintendent of Public Works

Administration

Assistant Superintendent

Central Garage (Fleet)

Refuse & Recycling

Buildings & Grounds Maintenance

CitiBus

Maintenance of Roads

Parks & Recreation

Administration

Athletic Programs

Fairgrounds

Ice Arena

Playgrounds

Swimming Pools

Thompson Park

Sanitary/Storm Sewers

Snow Removal

Traffic Control & Lighting



## Primary Sub-Department Classifications

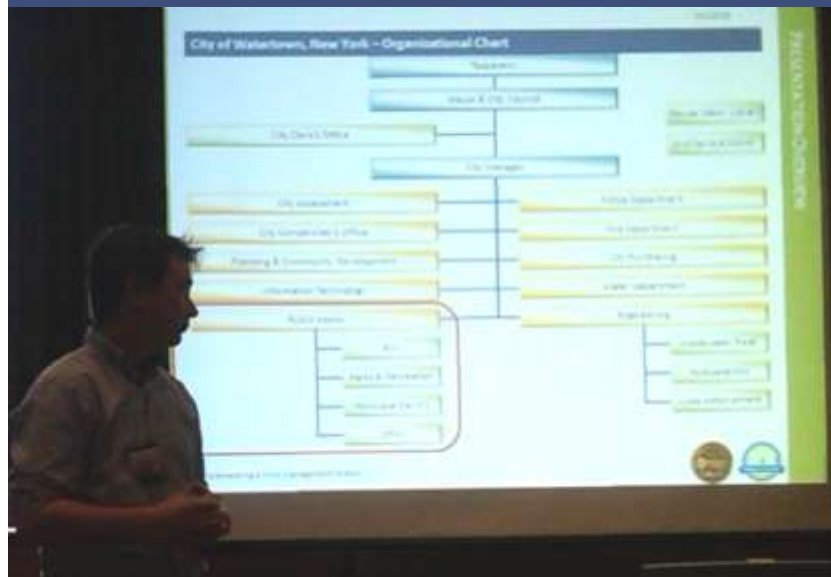
Sub-Department	Personnel
Public Works (Administrative)	8
Central Garage	7
Public Works (Traditional)*	41
City Electric	5
CitiBus	7
Parks & Recreation	9
<b>TOTAL</b>	<b>77</b>

## Organizational Notes

- While there are a total of 77 Full-Time Employees within the Department, the actual number of “Non-Dedicated, Multi-tasked” Operational Personnel is only 38.
- During the Summer Season our Total Payroll will exceed 170 Employees.
- The majority of the Summer Staff work within Parks & Recreation.
- When possible we try to limit our hiring to students who reside within the City of Watertown.



## Department of Public Works - Administration



DPW Administration consists of:

- 8 Employees

Administration Includes:

- Administrative Staff
- Clerical
- Engineering/GIS

Functions:

- Administrative & Operations Control
- Sub-Department Supervision
- Accounting
- Payroll
- Invoicing
- Records
- Inventory Control
- Dispatching
- Asset & Project Management
- GIS & Work Order Management



CarteGraph Better Government

### IMPLEMENTING A WORK MANAGEMENT SYSTEM

Presented by:

City of Watertown, NY – Department of Public Works  
 Joshua Carlsson, Sr. Engineering Technician  
 Amanda Helmer, Account Clerk Typist



04/22/09

Implementing a Work Management System



## Department of Public Works – Central Garage

Central Garage consists of:

- 7 Employees
  - 6 Mechanic
  - 1 Senior Account Clerk/Typist

Services Provided:

- Clerical
- Invoicing
- Payroll
- Equipment Records
- Small Engine Repair
- Radio Communication Maintenance
- Fleet Fueling
- Management Operations



### Scale of the Operation:

- 340 Unique Individual Vehicles & Equipment
- Departmental Utility Power Tools





## Department of Public Works – Building & Grounds

Buildings & Grounds consists of:

- 11 Employees\* (4 Parks & Rec Employees)

Services Provided:

- Fairgrounds & Municipal Arena
- Parades & Community Events
- Holiday Decorations
- City Tree Maintenance
- Public Square & Downtown District
- Playgrounds & Small Park Maintenance
- Code Enforcement Property Violations
- City-Owned Vacant Property Maintenance
- Fairgrounds Complex & Athletic Fields
- Veterans' Memorial Riverwalk & Riverfront Parks

### Scale of the Operation:

- 222 Separate Identifiable Sites
- Urban Forest of  $\pm 4,500$  City Trees



## Department of Public Works – Street Maintenance

Street Maintenance consists of:

- 13 Employees\*

Services Provided:

- Street Overlay
- Street Reconstruction
- Street New Construction
- Street Sweeping
- Pavement Maintenance
- Concrete & Curb Installation
- Demolition of Structures
- Special Projects



Scale of the Operation: 100 Miles of City Streets





## Department of Public Works – Snow Handling Operations (24-hour Protection)



Snow Handling Operations consists of:

- 39 Employees Assigned

Services Provided:

- Surface Treatments
- Plowing
- Snow Removal: City Streets & Sidewalks, and Municipal Parking Lots
- Public Square/Streetscape Maintenance
- Sand Barrel Supply
- Code Enforcement Response

### Scale of the Operation:

- 5 Material Spreaders (3 w/ plows)
- 6 Urban Plows
- 2 Rotary Blowers
- 5 Utility Plows
- 3 Bobcat Scrapers
- 4 Front-end Loaders
- 1 Multi-purpose Utility Vehicle



## Department of Public Works – Sewer Main Maintenance (Storm & Sanitary)

Storm & Sanitary Sewer Main Maintenance consists of:

- 12 Employees\*

Services Provided:

- Utility Locations
- Jet Rodding
- Pipe Inspection Operations
- Sewer ROW Maintenance & Improvements
- Residential Sewer Lateral Inspection & Repair
- Maintenance of approximately 4,500 Sewer Manholes
- Maintenance of approximately 6,000 Storm Drainage Catchbasins



### Scale of the Operation:

- 69 miles of Sanitary Sewers
- 46 miles of Storm Sewers
- 30 Miles of Combined Sewers



## Department of Public Works – Solid Waste Management Residential Collection

Solid Waste Management/Residential Collection consists of:

- 9 Employees\*

Services Provided:

- Weekly Refuse Collection
- Bi-Weekly Recycle Collection
- Seasonal Yard & Green Waste Collection
- Semi-Annual Bulk Item Drop-off Program
- Seasonal Curb-side Bulk Item Pick-up

### Scale of the Operation:

- Refuse and Recycle services are offered to the City's 8,500 Residential Customers
- Approximately 600,000 Collection Stops are made per year
- Sale of Blue Tags and Toter Service generated approximately \$670,000 in the 2008-2009 fiscal year.





## Department of Public Works – City Electric (Traffic Signal & Sign Maintenance)



City Electric consists of:

- 5 Employees

Services Provided:

- City Parking & Recreation Lighting
- Building Electrical Repairs/Upgrades
- Telemetry, Fiber & Communication Lines
- Roadway Pavement Marking & Lines
- Regulatory & Warning Signage
- Street & Guide Signs
- Parks and Way Finding Signage
- Parades & Community Events
- Concerts & Arena Shows
- Jefferson County Fair

Scale of the Operation:

- 40 Controlled Intersections
- $\pm$  6,000 Signs





## Department of Public Works – CitiBus

CitiBus consists of:

- 7 Employees, 5 Part-time Employees

Services Provided:

- Fixed Route Public Transportation System
- Complimentary Paratransit System
- Hours of Operation:
  - Monday – Friday: 7:00am to 6:30 pm
  - Saturday: 9:40am to 5:40pm
- Advertising
- Intergovernmental Coordination of Transportation Services & Agreements
- Emergency Evacuations & Special Shuttles

### Scale of the Operation:

- Served 150,000 Passengers in the 2008-2009 fiscal year logging 111,000 miles
- Served 9,716 Paratransit Passengers in the 2008-2009 fiscal year logging 30,500 miles
- Fiscal Year 2008-09: 25-30% General Fund Support



## Department of Public Works – Parks & Recreation Administration

DPW Parks & Recreation Administration consists of:

- 2 Employees

Facilities Include:

- 3 City-Owned Pools
- 8 City-Owned Playgrounds
- Thompson Park
- Fairgrounds Complex & Athletic Fields
- Veterans' Memorial Riverwalk & Riverfront Parks

### Functions:

- Administrative & Operations Control
- Accounting & Record Keeping
- Payroll
- Invoicing
- Reservations
- Personnel Hiring, Recruiting & Training
- Public Relations & Community Liaison
- Recreation Programs & Event Coordination



## Department of Public Works – Thompson Park

Thompson Park consists of:

- 3 Employees

Facilities/Services Provided:

- Tennis Courts
- Picnic Pavilions
- Adventure Playground
- Community Events
- Syracuse Symphony Summer Concert
- Maintenance of Rte 3 Handicap Accessible Fishing Site



### Scale of the Operation:

- 513-acre Recreational Site
- Year Round Operation
- Thompson Park Conservancy
- Bike Trails
- 4.5-miles of Walking and Cross Country Ski Trails





## Department of Public Works – Ice Arena

Ice Arena consists of:

- 4 Employees (6-mo. Arena/6-mo. Parks & Rec)



### Functions/Programs:

- Concerts & Sporting Events
- Trade Shows
- Jefferson County Fair
- Public Skating
- Skate Sharpening & Rentals
- Minor & Adult Hockey Programs
- Figure Skating
- Rock & Skate
- Slip, Slide & Skate







## DEPARTMENT OF PUBLIC WORKS PROJECT OVERVIEW



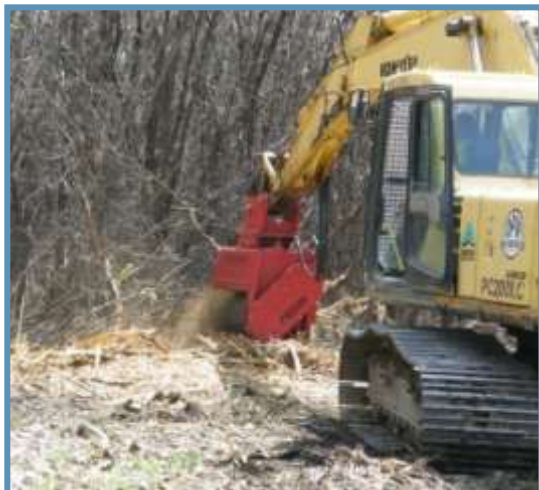


### **Buildings & Grounds Tree-Related Projects**

*2009*

Buildings & Grounds crew perform tree-related operations throughout the year. These operations include planting, pruning, trimming and removal of city trees. Crews prepare the sites for tree plantings performed by local volunteer groups and each spring the crew will plant between 90-100 trees throughout the City. All recently planted trees are placed on a rotating three (3) year schedule. Tree trimming and removal will occur after storm events and at the request of Code Enforcement.

In 2009, crews had logged over 3,000 man hours and approximately 1,900 equipment hours performing tree-related operations.



### **Buildings & Grounds Clearing & Grubbing Operations**

*2009*

Clearing & grubbing operations take place throughout the year. These operations allow access to various right-of-ways, ease maintenance operations and improve surface drainage. This year crews cleared sewer right-of-ways, allowing sewer crews access to drainage structures, and portions Kelsey Creek, where downed trees, limbs and brush were causing flooding issue on Morrison Avenue. Crew also performed clearing & grubbing operations on portions of Sewall's Island identified by Engineers for environmental remedial operations.





### Street Paving Program

*Spring – Fall 2009*

This construction season the road maintenance crew completed surface milling and paving projects on Brainard Street, Brook Drive, Haney Street, Orchard Street South, Paddock Street and Sherman Street. In addition to the milling operations, crews have also performed shim and overlay projects on Barben Avenue, Bronson Street, Marra Drive and Mill Street. The Bronson Street, Marra Drive and Mill Street projects each included the placement of concrete pin-on curbs.

When the 2009 construction season completed, crews had placed a total of eight thousand five hundred (8,500) tons of asphalt and poured two hundred eighty five (285) cubic yards of concrete.



### Arsenal Street Vendor Placed Paving Project

*Fall 2009*

Road and sewer maintenance crews completed the preparation work for the vendor placed paving project that was completed on Arsenal Street. The work included the reconstruction of portions of the concrete road base, the repair and replacement of sewer structure and the development of the striping plan.





### **Snow Removal Operations**

*Fall 2008 – Spring 2009*

The 2008-09 winter season logged a total snow accumulation of one hundred seventy five (175) inches. Ranking the 2008-09 winter season as the fourth highest in snow accumulation within the past one hundred years.

When the season was over, crews had logged over 16,200 man hours and approximately 12,700 equipment hours. The salt total for the season was equal to 1,860 tons, plus there was an additional 415 tons of treated salt used.



### **Emmett Street Storm Sewer Installation**

*Summer – Fall 2009*

Recent home construction in the Palmer Street/Emmett Street area had compromised the natural drainage of the street right-of-way. The drainage issues required the installation of a storm water collection conveyance system. The system, installed by Public Works crews, included the installation of a thousand (1000) feet of pipe and four (4) drainage structures.







### Algonquin Avenue Sanitary Sewer Installation

*Spring – Summer 2009*

Public Works crews installed an 8-inch sewer main along the right-of-way known as Algonquin Avenue. The work was completed as part of a recent upgrade to the Cosgrove/Iroquois neighborhood sewer system and included the clearing and grubbing along the right-of-way, the installation of four (4) sanitary sewer manholes, approximately one thousand one hundred (1,100) feet of 8-inch PVC sewer main and ten (10) 8-inch x 6-inch service connections.



### Mill Street Storm Sewer Repairs

*Spring – Summer 2009*

A heavy downpour, in which rain fell at a rate of 19.2-in/hr, occurred on Saturday, May 9, 2009. This event caused a portion of a National Grid concrete duct bank encasement to break free. The concrete traveled through a sewer pipe and became lodged within the City's storm sewer system. The obstruction caused flooding along a portion of Mill Street. DPW crews worked to remove the obstruction and repair the walls of the forty (40") inch brick storm sewer.





### Washington Street Signal Installation

*Summer 2009*

The City's electric department installed a new traffic signal at the intersection of Washington Street and Hudson Lane. The installation included the construction of four (4) foundation footers, the installation of five (5) pullboxes and over six hundred (600) feet of electrical conduit. The traffic signal poles and mast arms were up and the signals were set to flash by the last week in August. The signal was fully operational by Labor Day.



### City Hall Emergency Generator Installation

*Fall 2008 – Spring 2009*

The City's electric department completed the final terminations and testing on the emergency generator this past spring. The generator has been on-line since that time. The generator performs a self-test on a weekly basis and is subject to a twice-annual preventative maintenance schedule. This preventative maintenance is performed by the City's electric department.





## Work & Asset Management Implementation

*Continually Enhancing*

In 2006, Public Works began the process of implementing a complete work and asset management system. A pilot program featuring the work management software, began on a sub-department level in July of that year and the system went live at the department level on January 1, 2007.

Benefits being experienced through the use of the work management system have been to the department's internal project management, time management, data analysis and reporting.

All requests coming into the department are logged into this system and given a unique identification number. This allows for tracking the status of the each and the ability to quickly identify all work associated to the request.

Requests are immediately received by the Supervisor/s that will inspect and assign tasks related to the request. The individual completing the request is also given the opportunity to provide direction on the action that will be need.

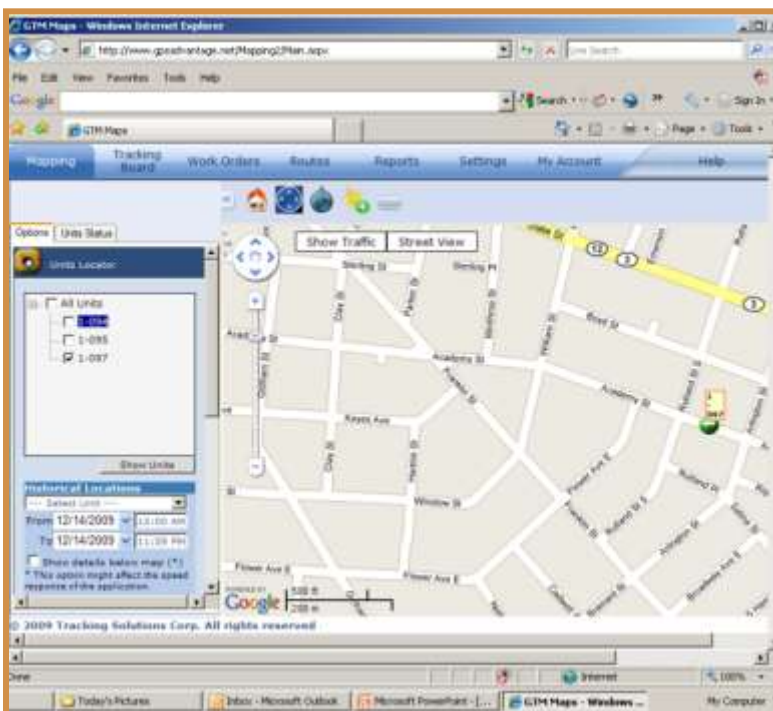
Requests requiring some action be taken are turned into work orders. Work orders can be developed as job cost estimates allowing the ability to compare estimates versus actual costs. Work orders may also be part of a larger project. Project reports can be developed showing the status of each individual work order or aspect of the job.

The majority of the all data input occurs as the supervisor completes the daily timesheets for each crew. By completion of the daily timesheets all labor and equipment associated to a work order is logged, this in turn completes the log on the work order. Comments associated with the days work are also provided on the work order.

The work management portion of the system has allowed the department to **track estimated and actual costs**, quickly **generate reports** on completed activities with the costs incurred by the activity, and has **improved communication** between the public works department and the entities it serves.

The next step in the process will be the integration of the GIS system with the management software. Upon completing the integration, Public Works will implement the asset management portion of the software. This will allow the department to **predict asset performance**, **manage the maintenance** activities on each asset, **maximize existing budget dollars**, **plan for future budget**, and **extend the life** of the City's infrastructure.





## Incorporating GIS/GPS Tools with Winter Operations

*Winter 2008 & 2009*

To improve quality and efficiency of winter operations, Public Works have been incorporating GIS/GPS technologies into its daily operations. In 2008, the department installed GPS units within its snow removal equipment. This allowed supervisors the opportunity to track and review a storm response and the actions of the equipment operators.

In the review of the information that was collected, it was observed that some improvements to the current operation would increase both quality and efficiency while reducing the amount of salt used and maintaining the level of service that is currently provided.

To achieve this the department researched and developed a GPS based fixed routing system that could be installed in the snow removal equipment and provide real-time monitoring.

Supervisors are currently working with the equipment operators to review and develop routes for salting and plowing operations. By identifying pre-determined routes for a storm response, the department will be able to establish routes with safer turning movements and eliminate duplicate coverage throughout the route. The real-time route monitoring will allow the supervisors and dispatcher to track and quickly identify the whereabouts of snow removal equipment, the areas that have been addressed and the areas that are still remaining.







## QUESTIONS, COMMENTS, SUGGESTIONS?

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December 2009

